DOCUMENT RESUME

ED 381 981 EC 303 929

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TITLE The Cognitive Strategy in Writing: Welcome Relief for Adolescents with Learning Disabilities.
PUB DATE 7 Apr 95
NOTE 51p.; Paper presented at the Annual International Convention of the Council for Exceptional Children (73rd, Indianapolis, IN, April 5-9, 1995).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS High Schools; High School Students; *Instructional Effectiveness; Junior High Schools; Junior High School Students; *Learning Disabilities; *Teaching Methods; *Teaching Models; Writing (Composition); *Writing Instruction; *Writing Strategies
IDENTIFIERS *Cognitive Strategy Instruction in Writing

ABSTRACT

This study adapted the Cognitive Strategy in Writing (CSIW) program, which had been effectively used with elementary students with learning disabilities (LD), to an older population of students. CSIW embodies three guiding principles: (1) effective writing is seen as a holistic enterprise involving the processes of planning, organizing, writing, editing, and revising; (2) teachers scaffold students' use of specific writing strategies; and (3) students write for authentic purposes and real audiences and collaborate with each other. Subjects included seven junior high and high school students with diagnosed LD and demonstrated difficulties with written expression. The students learned CSIW and practiced the strategies on two text structures (one requiring explaining a process and the other discussing what they know about a topic) over the course of a school year. Pretest and posttest assessments of overall quality, structure-specific primary traits, paper length, and reader sensitivity indicated improvement in students' writing during the year. T-tests demonstrated that students showed significant improvement on all measures of their writing ability. These findings affirmed the value of this writing approach for adolescents with LD. Appendixes include strategy "think sheets" and a sample pretest and posttest paper. (Contains 36 references.) (DB)

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The Cognitive Strategy in Writing: Welcome Relief for Adolescents with Learning Disabilities

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Council for Exceptional Children Annual Convention
Indianapolis, Indiana
April 7, 1995

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Abstract

Cognitive Strategy in Writing:
Welcome Relief for Adolescents with Learning Disabilities

The purpose of this study was to adapt the Cognitive Strategy in Writing (CSIW) program, which was found to be effective with elementary students with learning disabilities (LD), to an older population of students. Subjects included seven junior high and high school students with diagnosed learning disabilities and demonstrated difficulties with written expression. The students learned CSIW and practiced the strategies on two text structures during the course of one school year. Pretest and posttest assessments of overall quality, structure-specific primary traits, paper length, and reader sensitivity indicated improvement in students' writing during the year. T-tests demonstrated that students showed significant improvement on all measures of their writing ability, and qualitative differences were remarkable. These findings affirmed the value of a writing approach for adolescents with LD that incorporates cognitive strategy instruction within the process writing framework.

For many children with learning disabilities, written expression poses an intimidating challenge (Graham, Harris, MacArthur, & Schwartz, 1991b; Englert, 1990). Written products are by nature very visible and, as such, a tangible threat to children with language processing problems.

As a result, adolescents with LD often develop a special aversion to writing. By this age, writing assignments have become increasingly complex. Secondary students are expected to function independently in a variety of classroom settings (Ellis & Friend, 1991), yet students with LD have few organizational strategies that they can employ to respond to school assignments (Englert, Raphael, Anderson, Anthony, & Stevens, 1991). For these students, writing a paper is like building a house without a blueprint; they don't know where they're going or how to begin.

In an effort to combat the writing difficulties of students, educators increasingly have turned to the process writing approach, which seeks to engage students in meaningful writing activities for real audiences (MacArthur, Schwartz, & Graham, 1991a and 1991b; Englert, Raphael, Anderson, Anthony, Fear, & Gregg, 1988; Tompkins & Friend, 1988; Graham, 1992). For the student with a learning disability, process writing offers several advantages: it emphasizes problem-solving or cognitive process, values authentic reasons for writing, and provides for ongoing supportive interactions between teachers and students (Graham, et al., 1991b). As such, students with LD see that writing can be a purposeful activity, not simply an academic chore. They also discover that writing need not be done in solitude; a support system of fellow writers is available to them.

While the process approach provides students with legitimate writing opportunities, it has been criticized for often emphasizing practice without a similar emphasis on organization and text (Englert & Raphael, 1988). For many students, and particularly students with LD, the most effective approach combines the process writing philosophy embedded within a framework of instruction that emphasizes text structures and cognitive writing strategies (Englert & Raphael, 1988; Englert & Palincsar, 1991; Graham & Harris, 1989; Harris & Pressley, 1991; Graham, MacArthur, Schwartz, & Page-Voth, 1992;

MacArthur, Schwartz, & Graham, 1991a). Writing strategies offer LD students the tools they need to become successful, independent writers (Harris & Pressley, 1991; Bos, 1988).

Instructional Features

The Cognitive Strategy in Writing (CSIW) developed by Englert and her colleagues (Englert, 1990; Englert, et al., 1991; Englert & Raphael, 1989) has proven particularly successful with upper elementary students. Studies show that CSIW instruction improves the expository writing performance (Englert, et al., 1991) and metacognitive knowledge (Englert, Raphael, & Anderson, 1992) of elementary students with LD.

As described by Englert (1992), CSIW embodies three guiding principles. First, effective writing is a holistic enterprise in which writers engage in the processes of planning, organizing, writing, editing, and revising used by mature writers. Second, immature writers benefit from writing apprenticeships in which teachers model the thinking and inner talk that underlies effective writing. Teachers scaffold students' use of specific writing strategies through ongoing teacher-student and student-student dialogues. Third, students learn to appreciate the social nature of the writing experience by writing for authentic purposes and real audiences and by collaborating with each other throughout the writing process.

The CSIW program has the potential to mediate the cognitive difficulties that many LD students bring to the writing task. They typically have difficulty generating ideas (Graham, Harris, MacArthur, & Schwartz, 1991a); Englert & Raphael, 1988; Englert, et al., 1988; Graham, et al., 1992; MacArthur, Schwartz, & Graham, 1991b) and organizing text (Englert & Raphael, 1988; MacArthur, Schwartz, & Graham, 1991b; Graham, et al., 1991b), and they possess limited metacognitive knowledge about the writing process (Englert & Raphael, 1988). These students find it difficult to plan, monitor, evaluate and revise their writing (MacArthur, Schwartz, & Graham, 1991b; Graham, 1992). Hence, their writing is generally very short (Graham, et al., 1991b), and they usually quit after their first draft is written, a characteristic that distinguishes novice from experienced writers (Tompkins & Friend, 1988). Moreover, LD students lack important knowledge about the writing process

(Graham, 1992; Wong, Wong, & Blankinsop, 1989; Graham, et al., 1991a) and are dependent on the teacher in monitoring their written products (Englert & Raphael, 1988). Their writing often lacks crucial elements such as ending or premise (Graham, et al., 1991b).

All these problems are exacerbated in secondary schools, where more complex curricular demands and higher teacher expectations compound the difficulties of adolescents with LD. Ellis and Friend (1991) note that many adolescents with LD "simply do not know how to approach a task" (p. 510). As a result, they exhibit problems with such tasks as distinguishing important from unimportant information and organizing information, both crucial aspects of the writing process. Years of frustration with written work typically predispose these older students to do as little writing as possible. For example, Alley and Deshler (1979) describe Steve, an LD student in the eighth grade with a verbal IQ of 120, whose fear of writing actually caused him to hyperventilate and perspire.

While elementary students with learning disabilities have made impressive gains through their participation in a CSIW program, further research is needed to apply this model to adolescents with LD. In the past, remedial writing instruction for LD adolescents often has relied on workbooks and worksheets focusing on writing subskills such as sentence and paragraph structure, punctuation, and capitalization. On the other hand, traditional strategy instruction for older students has followed a hierarchical subskill approach, teaching one strategy at a time. The strategy program developed by researchers at the University of Kansas, for example, includes several component strategies which focus on written language tasks (e.g., sentence writing, paragraph writing, theme writing, and error monitoring) (Deshler & Schumaker, 1986; Schumaker, Nolan, & Deshler, 1985; Schumaker & Sheldon, 1985). However, students and teachers run the risk of becoming preoccupied with the component strategies and losing sight of the main objective: a well-organized piece of quality writing produced independently by a student who understands the writing process in its entirety. In fact, many researchers are recommending more integrated and unified strategy instruction that cuts across isolated and hierarchical skills and strategies (Ellis, 1993a and 1993b; Englert, et al., 1991).

The purpose of this study was to evaluate the effectiveness of an

integrated program (CSIW) on the writing performance of adolescent students with learning disabilities. While the basic components of the program remained intact, several modifications were implemented to accommodate the needs and abilities of older students. Instruction combined teacher modeling emphasizing the inner dialogue of effective writers, scaffolded assistance in the initial learning stages, support to students through the use of think-sheets, and peer collaboration in writing conferences.

The effects of CSIW were examined in terms of students' abilities to write two types of text: an explanation paper and an expository "expert" paper. It was hypothesized that instruction in CSIW would generate dramatic differences in writing quality between pretest and posttest measures of both text structures.

Subjects

Seven seventh- through twelfth-grade students from a rural Midwestern secondary school participated in the study. The four males and three females, all white, were enrolled in a resource room program that combined remedial instruction in specific academic skills with assistance in regular education subjects.

All students met state and local criteria for LD identification and placement. These guidelines required that the students had been assessed on standardized intellectual and achievement measures and had demonstrated (a) average or above-average intellectual functioning; (b) a severe discrepancy between intellectual functioning and one or more areas of academic achievement; (c) a learning disability not primarily the result of sensory or physical impairments, mental disabilities, behavioral disorders, cultural or language difference, environmental disadvantage, or a history of an inconsistent educational program; and (d) no permanent educationally significant hearing or vision loss.

On the Woodcock-Johnson Psychoeducational Battery, six of the subjects achieved broad written language scores that ranged between 5.2 and 6.6 grade levels, with an average score of 5.6; and broad reading scores ranging between 6.9 and 9.0 grade levels, with an average score of 8.1. The seventh student received instruction in mathematics and did not have current test scores in

written language or reading. However, she was having the same difficulties in text production and organization as the other students, and so was included in the instructional intervention.

It is interesting to note the consistency of the written language scores. Despite a range in grade placement between the six students of six years, the range in their written language scores was only 1.4 years. One might conjecture that prior written language instruction had left a "glass ceiling" of sorts that these students were unable to penetrate. Furthermore, whereas the students averaged only 1.6 years below grade level in reading, they averaged 4.0 years below grade level in written language. These scores serve to highlight the critical importance of bolstering the written language skills of these adolescents with LD.

Anecdotal evidence supported the conclusion that the students had serious difficulties in writing. Prior to CSIW intervention all subjects demonstrated weak written language skills and dependence on teachers for directions and feedback throughout the writing process. They demonstrated difficulty arriving at topics in freewriting situations; and once selecting a topic, they generated a limited number of ideas during brainstorming sessions. As a result, their written products tended to be quite short, often just one paragraph in length. Systematic editing and revising generally took place only after teacher urging, and revisions tended to focus on such "cosmetics" as spelling, punctuation, and sentence structure; rarely did editing focus on substantive issues of content or organization.

Materials

Assessment

Improvement in students' ability to construct effective expository writing using each of two text structures was assessed by means of pretest and posttest measures. Directions for the explanation pretest paper emphasized explaining *how to do something* the students knew quite a lot about (e.g., how to get to a certain place or how to build something). They were instructed to explain their topics as clearly as possible for an audience who knew much less about the topic than they did. The second pretest paper, called an "expert" paper, required students to discuss *what they know* about a topic with which

they were very familiar (e.g., a hobby or a place they had visited). Again, students were directed to focus their paper on an audience less knowledgeable about the topic than they.

Curriculum Materials: Cognitive Strategy Instruction in Writing

The CSIW curriculum materials included think-sheets designed to make the strategies, self-talk, and text structures visible to students (for a complete description of CSIW materials, see Englert, 1990; Englert & Raphael, 1989; Raphael & Englert, 1990). Each think-sheet contained a set of self-questions or self-instructional statements designed to promote students' development of the inner language and writing strategies used by skilled writers. The complete set of strategies was identified by the acronym "POWER," which represented the following subprocesses in the writing process: *plan, organize, write, edit,* and *revise.*

The prewriting phase of instruction included planning and organizing. The *plan* think-sheet was designed to help students identify their audience and purpose, as well as retrieve background knowledge of their topics in the form of a brainstorm (see Appendix A). The *organize* think-sheet was designed to help students organize the ideas found in their brainstorms into logical groups, or categories. The explanation and expert text structures each utilize a separate organizational map, as shown in Appendices B and C.

After planning and organizing, students used a word processing program to write their first drafts on the computer. During drafting, students translated the ideas from their *organization* think-sheets into sentences and paragraphs. They were encouraged to consider the needs of the reader by constructing effective introductions and conclusions, and by expanding their text with additional details when necessary.

The editing phase involved two think-sheets. The *edit* and *editor* think-sheets (see Appendices D and E) directed students through a series of evaluative questions that served as the focus for self-editing (*edit*) and peer-editing (*editor*). Students concentrated their attention on content, organization, and mechanics, and the editing think-sheets guided them in making their plans for revision. A key feature of this phase was the collaborative meeting between the author and peer editor.

In the final phase, students used the *revise* think-sheet (see Appendix

F) to help them decide which revision suggestions noted during self-editing and peer-editing to implement. The entire process concluded with students using the word processor to make their final revisions. Final drafts were displayed in the classroom for others to read.

Procedures

Students wrote pretest papers of both the explanation and expert text structures in October; posttest papers were written in May after students had completed two explanation papers and one expert paper. To introduce CSIW, students were told that they would be learning a cognitive written language strategy designed to help them become more effective and more independent writers. The teacher explained that "cognitive" refers to a thinking process involving things you think about and do systematically. A "strategy" was defined as a tool or plan that you can use over and over again in different situations. Students were told that the CSIW think-sheets would help them to organize their thinking. The think-sheets would provide a "plan of attack," similar to various strategies the students might use in activities in which they are involved outside school. The teacher introduced students to the notion of strategies in the following way:

T: So this process is called a *cognitive* process because the way we're going to teach it, we're going to teach you a thought process--a thinking process to go through when you're organizing, and when you're writing, and then when you're revising. And a lot of that thought process we'll be doing out loud because I want you to hear what the thought process is, and I want you to hear what your own thought process is and hear each other's thought processes so that you understand better what good writers do--what they think about as they're getting ready to write, while they're writing, and while they're revising. So that's what we mean by *cognitive*.

A *strategy* is simply a plan that you can use over and over again in similar situations. Like in wrestling, for example. You know, your coaches teach you different strategies for when you find yourself in a particular spot. You know, a guy gets a cross-face on you and you've got some kind of a strategy to try to get out of that, right?

S: Yeah.

T: And then maybe there are two or three strategies, depending on where his leg is, or depending upon whether his nose is close enough for you to bite, or whatever. (Students laugh.) Different strategies, and you can use those over and over again in similar situations. You're training a horse and the horse does certain things. You have strategies that you have learned to do when those situations arise. In cheerleading, when

the team is down by 150 points (students laugh), which doesn't happen here obviously, you have certain strategies to try to get the crowd back on track. And so on and so forth.

The most effective instructional models for adolescents with LD are those that make instruction as explicit as possible (Ellis & Friend, 1991; Isaacson, 1990). As such, the teacher explained that he would use CSIW to model the process of writing an explanation paper. He noted that he would be describing the thinking process used by good writers by means of "think alouds" in order to take some of the mystery out of the process. This was contrasted with the traditional approach of simply telling students what to do and how to do it. It was noted that people who write well think a lot about what they are writing; students would be asked to practice this thinking out loud in hopes that eventually they would do it automatically in their heads.

In order to become comfortable with the writing task, students were told they would be writing regularly, and they would have the opportunity to work on the same piece over an extended period of time (Graham, et al., 1991b). The teacher informed the students that they would be doing a lot of writing, at least two or three days a week. Students were told that over time they would learn to do many of the things automatically that they were concentrating on in the initial writing sessions. The teacher used the metaphor of learning to ride a bike to explain this learning process:

T: When you teach somebody to ride a bike, they have to be thinking all the time about what they're doing. You know, you tell them you've got to keep the handlebars straight, you've got to keep the wheel down the middle of the sidewalk. If you find yourself drifting, you've got to lean your body back to balance. Don't make sharp turns. If you find yourself going too fast, stop pedaling. If you find yourself going way too fast, put on the brakes. When you put on the brakes, be sure you hold the handlebars still.

You know, a kid's got to be thinking about all that stuff while they're learning to ride a bike. But you people, when you jump on a bike you don't have to think about any of that, right? You just get on the bike and go. You don't think about it all because it's become an automatic skill. You've done it so often that it's not a *cognitive* activity anymore; you're not thinking about it constantly while you're doing it.

...So we want to teach you a thought process and a plan that you can use when you have do to different writing activities, not only in school but after school. And we hope that you'll be doing it often enough that it will become kind of automatic. It's going to be very cognitive at first. We're going to do it very carefully; we're going to think through it, talk through it. But then eventually if you do it often enough, hopefully it will become like riding a bike--you'll just kind of do it automatically. It will be less time-consuming and more efficient.

The teacher also explained that students would be writing their papers on the computer. The inclusion of computers was an innovation that was not part of the original CSIW program. Word processing offered special opportunities for students with LD (Graham, et al., 1991b). For students with fine motor problems, replacing handwriting with typing helped them generate a neat, printed copy (Graham, 1992). Further, students were more willing to take risks with their writing when spellchecking and correcting could be completed later (Keefe & Candler, 1989; MacArthur, 1988). The physical demands of editing were diminished, which encouraged more effective editing (MacArthur, 1988; MacArthur, Schwartz, & Graham, 1991a and b). Word processing was a particularly attractive addition to a program like CSIW, which emphasized peer collaboration, since it maked writing and editing more public (MacArthur, 1988). Although the students displayed varying degrees of expertise with computers, all were familiar with the advantages of word processing.

The students then were told that they would be reading each other's papers and commenting on them. The teacher emphasized that the best way for an author to judge the effectiveness of her/his writing was to have someone else read it and react; after all, the purpose of writing is to communicate a message to someone else. Since most students were relatively inexperienced with giving and receiving feedback with other writers, the teacher noted that even professional writers like Stephen King worked with editors who help them improve their manuscripts. Moreover, since effective writers identify their audience and craft their work in a way that addresses the needs and knowledge of the audience (Rhodes & Dudley-Marling, 1988; Nelson Spivey, 1988; Graham, et al., 1991b), the teacher emphasized that the nature of their audience should help them determine the approach they took to their topic. For example, a paper about scuba diving written for a novice would be quite different from one written for a diving instructor. The prior knowledge and needs of the audience must be considered from the very outset to the conclusion of the writing process.

CSIW instruction began with an analysis of two explanation papers written by actual students. The teacher and the students discussed what they liked about the papers and what they thought could be improved. Discussion

centered on the degree to which each paper clearly stated its purpose, explained the necessary steps, and provided adequate details for each step. This exposed students not only to the explanation text structure but also to the idea of collaboration in the evaluation and revision of students' texts. During the discussions, the teacher frequently prefaced his comments with "I'm wondering..." in order to model the inner talk that accompanies thoughtful analysis.

In the following dialogue between the teacher and two students discussing one of the sample papers, the teacher demonstrated the inner talk that accompanies careful analysis:

T: The first sentence says, "My explanation paper is on my favorite Mexican food, enchiladas." Alright, what do you think about that? Does that raise any questions in your mind?
S1: It's not exciting, I guess.
T: Well, it's not terribly exciting. There might be some ways we could improve that. I'm wondering what an enchilada is. You know, I'm reading this and I'm seeing that right away we're going to start in with the steps, and I'm wondering: Well, what *is* an enchilada? What does it look like?
S1: Actually, I know what it looks like. It looks like a burrito.
T: Yeah, something like that would help. If they put in there that it's a little like a burrito, then you'd have something to clue yourself in on. O.K. "The way you make it is you take a corn tortilla and you put it in some cooking oil in a pan." O.K., I'm, wondering: Does it have to be a corn tortilla? Are there other kinds of tortillas?
S1: Like soybean?
S2: There's other ones.
T: Yeah, there are some other kinds. So I'm wondering: Well, would it have to be a corn tortilla? Could it be a flour tortilla? You say there's a soybean tortilla?
S1: I don't know. There could be.
T: Yeah, there could be. Everything else is made out of soybeans. O.K., then are you wondering anything about the cooking oil?
S2: Does it need to be a certain kind?
S1: Yeah, there's vegetable oil...
T: Right. Good point. Would it be vegetable oil? Crisco? Corn oil? Peanut oil? There's all kinds of oil; it would be nice to know what kind. How about the word "some"..."some cooking oil"?
S2: How much? What if you put two cups in?
S1: And it only needed half a cup.
T: Yeah, if you put two cups of cooking oil in there, you're going to have some real strange (enchiladas).

Once the students had become familiar with the explanation text structure, the teacher explained that he would model the process of planning,

organizing, writing, editing, and revising a paper of his own in preparation for the students following suit. Students were directed to pay close attention to the process, since they soon would be expected to write a paper of their own with minimal teacher assistance. Ellis & Friend (1991) note the importance for adolescents with LD to see themselves not as passive recipients of instruction or assistance, but rather as active learners who are in control of their lives. The teacher's language and instruction should reflect the adolescents' ability to make adult decisions and to take control of their learning. Moreover, human beings' functional capacity increases with development, and instructional approaches for students with LD too often emphasize the acquisition of "elementary units of knowledge" (Reid, 1988, p. 7). The teacher emphasized that one of his prime objectives was for the students to write more effectively and more independently as quickly as possible:

> T: If you have a question, I'll be happy to help you, but what I'm trying to do here is help you become as independent about your writing as possible...I want you to just kind of move through the process. Watch what I've done, go ahead and do it yourself, and then you will have a chance to help each other out before this thing is finally completed. And that's the only time I'll really sit down and look at your final paper, after you've gone through this whole process, unless you have a question. If you want me to help you word something or you're not sure how to organize something, let me know. I'll be happy to help, but I want you to become as independent as possible with all this.

Teachers of adolescents with LD also must communicate confidence in their students' ability to accomplish academic tasks (Ellis & Friend, 1991). Because new tasks frequently generate failure, students with LD need positive feedback in conjunction with strategic instruction. The teacher must convey positive expectations during the initial acquisition stage of learning (Pullis, 1988). For students to function independently, the teacher must recognize when students need structure and direction and when they can function independently (Pullis, 1988). Accordingly, students were told that they would be expected to rely on each other for assistance. The teacher would be available, if needed, but would avoid reading students' papers until final revisions were made. The expressed purpose was to approximate the "real world," in which students would need to rely on themselves and their colleagues. The students responded quite favorably to this approach,

apparently appreciating this responsibility and the teacher's confidence in their ability to learn to implement the writing stragegies independently.

By modeling the process by writing a paper of his own, the teacher diverged slightly from the approach of Englert and her colleagues, whose students began by writing a whole-class paper with the assistance of the teacher (Englert, 1992; Englert et al., 1991). The teacher felt that by modeling a paper of his own he could clearly share his own inner talk with the students. He explained to the students that he would be modeling the explanation text structure only; he was confident that the students would be able to generalize the process to the "expert" text structure (as indeed they proved to be). Scaffolding during the initial phases of instruction was withdrawn as the students became more proficient with the strategy (Nelson Spivey, 1988).

Pre-Writing Phase

The teacher began by choosing a topic with which both he and the students were quite familiar. The class had been involved for several years with an ongoing fundraising project wherein students prepared and sold snack items at junior high athletic events; organizing a concession stand project became the topic of the teacher's explanation paper. As he told the students, choosing a topic familiar to all would enable them to better follow the entire process and to participate at any point if they wished to do so. After passing out copies of the *plan* think-sheet, he explained to the students that the first two questions on the sheet (Who am I writing for? Why am I writing this?) help the author develop a focus for the brainstorm that will follow. The brainstorm itself centers on the third question on the sheet (What do I know about the topic?). The teacher brainstormed the topic using think-alouds, writing his ideas on the think-sheet. While completing the brainstorm, he emphasized that order was not important and that ideas should be recorded as single words or short phrases. Each idea was written on a separate line, and only one side of the page was used; this, he explained, would make organizing the ideas easier later.

When he had completed his initial brainstorm, the teacher modeled a step not included in the traditional CSIW regimen. First, he went back through his brainstorm item by item, asking himself out loud, "What should I tell the

reader about this idea that I haven't already listed?" When an additional detail came to mind (or was suggested by a student), it was added to the bottom of the list of ideas. The emphasis here was on anticipating the reader's need for specific information. The students clearly saw how the brainstorm expanded when the reader's needs were considered.

After modeling the brainstorming process, the teacher instructed the students to choose topics for their own explanation papers. Choosing their own topics not only allowed students a sense of ownership and the chance to capitalize on personal experience (Rhodes & Dudley-Marling, 1988), but also might reduce the organizational demands on the writer (Graham, et al., 1991b). The teacher urged students to choose topics that they knew quite a lot about and that they might legitimately need to write about someday. For example, a student who held a very responsible position at a local automobile service station was asked to imagine that he contracted a bad case of the flu and would be out of work for at least two weeks; his boss has asked him to write an explanation of his duties for his replacement. Once students had chosen their topics, they used the *plan* think-sheet to create their brainstorms.

When all the brainstorming was complete, the teacher began modeling the organization step. After supplying each student with a copy of his *plan* think-sheet with which to follow along, he again amended traditional CSIW procedures by using colored markers to organize his brainstormed ideas into groups. A colored dot was placed in the left margin next to the first idea in the brainstorm. Then the teacher went through the entire list of ideas, placing a dot of the same color next to all the other ideas that "seemed to go with" the first idea. A conscious effort was made to avoid muddying the waters with such terminology as "grouping," "categorizing," or the ultimate nemesis - "outlining":

T: You need to group things together. It's important to have your ideas grouped together in some logical way, and it's fairly easy to group things together in an explanation paper because the organization is the order of the steps. So that makes it a little bit easier, but nevertheless grouping things together is important. If I were to just start writing from this brainstorm without organizing it first, what kind of problems might I run into? If I were to just take this list of ideas and sit down and start writing away, just right on down the list here...
S1: (You might) repeat yourself.
T: Well, I don't know if I'd repeat myself.
S2: It wouldn't be in order. You might be telling things out of order that should come first.

T: Yeah, right, because when I did the brainstorm I just kind of put things down as I thought about 'em, and they may not be in the proper order. So it's just crucial, of course, to look at your ideas and then put 'em in a logical order, group them together and then put those groups in order.

Alright, so I'm going to just start at the top of the list-"reserving the kitchen," and I'm going to make that a blue dot. And I'm just going to go down the list and put a blue dot next to the other items that seem to go with that. That seems to be kind of a preliminary thing that I would have to do before I get too involved with actually doing the concession stand. So "locate a spot for the stand," "find a table," "locate equipment," these are all kind of preliminaries. "Locate the pots and pans." Actually, it seems to me like I'm getting into some things in the kitchen-well, that's alright, I'll just keep them together. "Study the oven," "gather the recipes." O.K. "The menu," and "buy the supplies." I don't think I have anything else that had to do with before even getting started. Well, "electing officers," yeah. "Talking to the custodians," "setting up the checking account," "electing officers": those are all kind of preliminary things.

S2: "Review making change?"

T: "Review making change" and "salesmanship." Those are all preliminaries. It's an awful big list, quite a few items. And I'm not sure that...well, yeah, it'll probably just end up being more than one paragraph.

Once all the ideas of the first color had been identified, the teacher went back to the top of the list and assigned a dot of a different color to the first item on the list without a dot. The same procedure was followed in identifying ideas that "seemed to go with" this new idea. Additional colors were used until each item in the brainstorm was identified by a colored dot.

When every idea in the brainstorm had been labeled with a colored dot, the teacher examined each group to be sure there were enough ideas for at least one good paragraph. Any group that included a very small number of ideas (e.g., two or fewer) was either expanded, added to another group, or discarded. Students were told that any group that included a very large number of items (e.g., more than four or five) might become more than one paragraph.

The teacher then explained that it was time to formally organize his ideas by transfering them to the *organization* think-sheet. After giving each student a copy with which to follow along, he answered the questions in the large boxes at the top of the *organization* think-sheet (What is being explained? Who or what is needed? What is the setting?). He explained that these questions help the author to focus on important background information that might be useful later when writing the introduction of the paper.

Next the teacher asked the students to help him determine a logical

order for the groups of ideas. This critical step was facilitated by the concept map boxes that form the heart of the CSIW *organization* think-sheet. The map created a graphic representation of the content of the composition and facilitated the organization of ideas; the teacher hoped that after whole-group introduction of the map, students would be able to use it independently (Nelson Spivey, 1988). When the first group had been determined, a dot of its color was made to the left of the first small box (labeled "What are the steps?") on the *organization* think-sheet. The colored dots representing the other groups were placed in order to the left of the other boxes, thus completing the list of steps in the explanation.

Then the teacher, with help from the students, determined a very brief "title" or category name for each group. This was done by verbally addressing questions such as the following: Why are these ideas grouped together? What do they have in common? The title for the first group of details was written to the immediate right of the key word found inside its box. The teacher explained that key words were crucial in an explanation paper but that those found in the boxes on the *organization* think-sheet were only suggestions; others could be substituted. Then, to the right of the title, the teacher listed the ideas from the first group in the order in which he thought they should appear in the paper. This procedure was repeated for each of the remaining groups. It was necessary to write small and to be brief; even then, some of the larger groups spilled out from the confines of the boxes into the margins. When the *organization* think-sheet was complete, the teacher explained that the entire paper was now laid out on a single page; all that remained was to transfer the ideas into sentences and paragraphs on the computer.

Using the strategies modeled by the teacher, the students then color-coded their own brainstorms and transfered their ideas to a copy of the *organization* think-sheet. The teacher made himself available to answer procedural questions and offer suggestions.

While the students were busy organizing their papers, outside class the teacher wrote the first draft of his paper, using his completed *organization* think-sheet as a guide. He made several copies of his first draft for students to review, along with multiple copies of his completed *organization* think-sheet. Then students were shown how the ideas on the teacher's

organization think-sheet had been translated into sentences and paragraphs in his first draft. The teacher included a brief overview of the purpose and structure of the introduction and conclusion:

T: People sometimes really get uptight about introductions and conclusions. They don't have to be real complicated. They should be very general. You don't want to put any of your specific details from your brainstorm in the introduction and conclusion; they don't belong there. The introduction and conclusion are just general ways of starting and finishing a paper, just kind of getting it going and then tying it together, so a couple of sentences is plenty for each of those paragraphs.

Writing Phase

In preparing the students for writing their own first drafts, the teacher suggested that they consider using answers to the questions at the top of the *organization* think-sheet as the basis for their introductions and to conclude with a paragraph that ties everything together, perhaps referring back to, or expanding on, ideas from the introduction. Lengthy groups of ideas were to be broken into more than one paragraph; the teacher suggested roughly three to five sentences per paragraph. He also suggested occasionally putting more than one idea in a single sentence for the sake of sentence variety. He emphasized that the *plan* and *organization* think-sheets were meant as guides and that it was O.K. to divert slightly at any time by adding, deleting, or rearranging ideas. He also reminded students that the first draft would not be the final product; editing and revising would follow.

After reviewing the entire writing process, the teacher reminded the students that students should collaborate with each other rather than turn to the teacher for assistance. Although the teacher would be available if needed, he would not be looking over anyone's shoulder all the time. The teacher noted that unless asked for specific input, he would read the students' papers only when they had been edited and revised. Even then, the teacher's suggestions would be restricted to matters of form (e.g., punctuation, spelling) and not matters of content. In so doing, the teacher placed the students' focus on the *content* of their papers, rather than the *conventions* that often can interfere with the writing process for students with LD (Isaacson, 1990; Rhodes & Dudley-Marling, 1988). The teacher's expressed intent was to emphasize the importance of content in writing and to place responsibility for content on the shoulders of the student authors and

editors. His role in assisting with the editing of conventions was portrayed as playing a secondary role.

Since effective writers also develop their voice through a writing style of their own (Rhodes & Dudley-Marling, 1988), students were told that the content and style would be left up to them. In this way, the teacher sought to empower the students and to free them of the "burden" of trying to figure out what knowledge and forms were sanctioned by the teacher. It was hoped that the students would develop more flexibility of thinking regarding the writing process and less of an impression that the teacher's way was the only right way.

Based upon prior student performance, the teacher inferred that students might have an especially difficult time making their writing interesting to an audience and/or offering suggestions to their peers about how to do so. As such, the teacher discussed three relatively simple ways to make a paper more interesting: (1) asking a question, (2) adding a description, and (3) relating a personal experience. These suggestions were written on the chalkboard and saved for the duration of the school year as a point of reference for student authors and editors.

Editing Phase

When the students had finished writing their first drafts on the computer, the teacher reviewed the importance of self-editing and peer-editing. Then he used his first draft to model the use of the *edit* think-sheet. Again, he used think-alouds to illustrate his thinking as he reviewed and edited his paper. Students then completed *edit* think-sheets while reviewing their own papers. They were urged to make ongoing adjustments to their papers on the computer as the editing process proceeded.

In introducing the peer editing step, the teacher gave each student a copy of "Guidelines for Peer Editors" (see Appendix G) and discussed the role of the peer editor. He urged students to edit a paper the way they would like their own papers edited, and to give the kind of suggestions they themselves would like to receive. Next, the teacher used the previously discussed enchilada paper and the *editor* think-sheet to model the task of the peer editor. Each student was given a copy of the paper and a copy of the *editor* think-sheet. A member of the class read the enchilada paper as if it were

his/her own, and the teacher edited it accordingly, with follow-up discussion with the "author." Then the teacher read a first draft written by a student in another class as if it were his own, and the students used it to practice using the *editor* think-sheet aloud together. The teacher encouraged student comments by mentioning some questions he had asked himself while editing "his" paper (about cheerleading):

T: Well, one thing I was wondering when I went through this myself is if you thought I had enough details in the first and second paragraphs, the one about practicing and the one about being in front of the crowd. Do you think I have enough details in those two paragraphs?
S1: In the second paragraph, I think you should add a little more detail.
T: About what you do in front of the crowd?
S1: Yeah.
T: Is there something you can think of that I should think of adding?
S1: Like, maybe just be yourself.
T: Be yourself. O.K.
S2: You have to remember to face the crowd and to be loud enough so they can hear you. In practice, you don't have to be that loud because there's not a crowd watching you.

Students then made extra copies of their papers for their editor(s) and exchanged papers, which they read aloud in turn. When all papers had been read aloud, students completed an *editor* think-sheet for each of their peers' papers. When all sheets were complete, students took turns sharing their comments with the respective authors. In the following excerpt, two editors used their *editor* think-sheets to comment on an author's paper, which explained how to clean the grill at a local restaurant where the author worked as a short-order cook:

E1: I think you could tell what the paper is about...I like the first paragraph and the last paragraph.
E2: Yeah. I like the way, "In preparing the grill..." I like that and, like, just basically the first sentence...
E1: The first sentence of each one.
E2: I really liked his conclusion.
E1: Um, hmm.
T: Good topic sentences and good conclusion.
E2: Yeah. I like in the second paragraph, "Now you're ready to clean." I like that. It made it interesting.
T: Um, hmm.
E1: I like that, too. And the part that I had for a question is the second paragraph, the wording on one of the sentences that I didn't quite understand.
E2: I had, like, um, questions...In the second paragraph...it got a little

bit confusing when you said, "Now go to the left of the barrel to find that..." It got a little confusing.

A: Yeah, that's kind of hard to (explain).

E2: Yeah. And then, like, some people wouldn't know what a scrubbing pad is. I don't know, you could tell what it looks like, or whatever.

A: O.K.

E2: And, like, what kind of solution, you know, even though it says "cleaning solution." And maybe add how long it should take you to clean it, if it's just a short job or a quick job.

A: Oh, O.K.

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E1: The parts I'd change should be just not to make the sentences too long. They kind of get jumbled up once in awhile.

E2: Yeah.

T: That might be a way to help solve some of these other problems. We could put a few shorter sentences in there.

E1: Yeah.

E2: Yeah.

A: O.K.

T: It's a good idea to use different lengths of sentences.

After the peer editing session, the teacher briefly reviewed the process with the participants:

T: I thought you all did a real good job...It was interesting to watch you do this, because each of you...

S2: We all learned different things.

T: Yeah. You picked out different things, and I thought as an author you were able to understand the value of some of the suggestions. I got the impression that I saw some people saying, "Oh, yeah...Hmmm, yeah...That's good..."

S1: (laughs)

T: Good suggestions, and they were well received. And I thought you noticed some positive things about the paper. I thought that was perceptive, too. For example, (author's name)'s topic sentences. You know, a good paper should have good topic sentences to introduce each paragraph.

S2: Uh, huh.

T: And I think you see the value of a good introduction and a good conclusion; you mentioned that, too.

The teacher often helped the students through peer editing the first time, making sure that each author understood the editors' comments and that the comments and suggestions had been recorded adequately for the author to use during revision. The teacher found it necessary to draw out numerous clarifications from some of the peer editors.

The comments and suggestions of some editors became more detailed and more sophisticated as they became familiar with each other's writing and with

the peer editing process. The following exchange occurred during the second paper (about working as a meal caterer) written by a member of the same group cited above:

E1: I liked your first paragraph and your last paragraph, I mean the way you started and the way you rounded it off.
T: Mm, hmm. I remember that. That *was* good.
E1: Yeah.
E2: Yeah, the last one was good.
E1: And I noticed in the first paragraph you used the wrong "your," I think. I'm not sure. I think twice; I think in both places, because it should be "you are."
T: Yep. You're right. If it means "you are," it should be "apostrophe-re."
E1: In both places.
T: O.K.
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E2: I didn't really find any parts that were unclear.
E1: Well, I thought maybe you could tell, like, something about the serving line, like how it goes, or something.
A: Um, hmm.
E1: I mean, it was clear and everything, but that's just something that I was kind of wondering about.
T: O.K. Did you have anything starred, (S2's name), that you thought was good?
E2: Yeah, the last paragraph. Interesting.
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E2: She had beginning, then arriving, and serving.
E1: Yeah.
T: It was easy to follow the categories?
E1: Yeah, it was very easy. She has good details to explain each category, too.
E2: Right.
T: The key words are not quite as easy to pick out in this type of paper (expert paper) as they are in the explanation paper, which goes, you know, first, second, third, then, next...
E1: Yeah, but you can pick them out in here.
T: You can still...Good writers still use connecting words to kind of tie the paragraphs together...
E1: You could pick 'em out.
E2: Mm, hmm.
T: She still had 'em, eh? Good.
E1: You could tell where it went from one thing to the next.
T: O.K.
E2: And it was interesting.
E1: Yep, I thought it was interesting too.
T: Can you explain what made it interesting? That's a little harder.
E1: I thought it was interesting just the way she went through it and described everything from the beginning to the end, like loading the van

and stuff like that...

T: O.K.

E1: I just thought it was interesting. Then the serving part, where you had to change the food and stuff. I'm sure, you know, that every once in awhile somebody does something wrong...It was easy to follow. You could, like, go there and do that job.

T: O.K. Sort of a behind the scenes look at something that we're all familiar with?

E1: Yeah.

T: I thought that was kind of interesting...We've all been to catered meals, but you show up and it's there.

E2: Yeah.

T: You don't realize what goes into putting it together.

E1: Yep.

T: O.K.

E2: And I didn't really find any parts to change.

E1: I just put maybe tell the order of the serving lines and, like, how far do you travel, like, you don't go clear out to Nebraska or something like that, you know?

E2: And I put down one thing to make it interesting is you could tell different kinds of foods that you serve.

E1: Mm, hmm. And I put, um, how about something that happened that wasn't supposed to? Like, the oven goes out, or something like that.

T: Sure, have you had some bloopers that you could describe?

A: Yeah.

T: That might be kind of nice, too.

A: A couple that didn't happen to me, but maybe to other people.

T: Sure. Good suggestions.

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T: I didn't mean to put you on the spot about this, "What made the paper interesting," but it's easy to say, "Yeah, it's interesting" or, "No, it wasn't interesting." But it's a lot harder to be able to explain what made it interesting. You know, you get this kind of intuitive feeling, "Yeah, that was kind of interesting," but I think it would help the author if you could tell them *why* it was interesting. "Well, I like the way you described...this" or "I never thought of it quite that way." "You made me think about something here" or "This was an interesting detail here." The more specific your comments are to the author, the better feel they have for what they're doing to make the paper interesting and maybe what else they could do in the *next* paper, you know, because sometimes you write things that other people like, but you don't really know why they liked it and if they can tell you that, then you know that maybe that's something you should consider the next time. Or if something *isn't* interesting, then maybe you can point out what can be done to make it more so...Even if it's just pointing to a particular paragraph and saying, "Well, I like the way you said that" instead of just saying, "Yeah, it was interesting."

The teacher's last comment above illustrates how he used direct instruction in capitalizing on situations that emerged during the writing process. These situations were meaningful to students because they arose from

the work of the students themselves, rather than from contrived textbook exercises. Following is another example, from a different conversation with an author and editor, of what might be called "incidental teaching":

E: I found a couple of sentences that were, like, really long and you could have tried to make them shorter because they were a little confusing.
A: Mm, hmm.
T: Is there any confusion over the word "they"? Is that part of the confusion?
E: Yeah, that could be.
T: It could be that you have a pronoun there that you're not really sure what it's related to.
E: Make sure (it says) "the horse" or something like that...
T: Who are "they"?
E: Yeah.
T: Sometimes that can be confusing if you have a pronoun like "they" or "it" and it's not completely clear to the reader who or what "they" are.
A: I could keep it in the second time, after the first time.
T: Yeah, but you want to make sure it's clear (by identifying the referant the first time it is used).

Revising Phase

The teacher did not feel it necessary to model the revision step. Rather, he discussed the *revise* think-sheet, explaining that structured planning for revision forces the author to think carefully about various improvement options, rather than simply jumping at one or two ideas or ignoring the step altogether.

Students then took all *edit* and *editor* think-sheets, as well as all copies of their papers on which they or their editors had made comments, to the computer. The teacher emphasized that the relationship between author and editor continues all the way through the final revision, and he encouraged students to discuss their papers with each other as they worked on their revisions.

When the students were satisfied with their revisions, they made final printouts and submitted them to the teacher. The teacher wrote comments and suggestions on the papers, reserving them to areas of mechanics and aesthetics. Students then incorporated these suggestions into a final revision that was displayed in the classroom for others to read. These final drafts eventually were added to the students' writing portfolios.

Summary

CSIW activities accounted for only a portion of the assigned work the students completed each week, occupying all or part of two to three class periods per week. Students were allowed to budget much of their own time during the week as they chose, provided all the required work was completed. They expressed a great deal of enthusiasm and independent time management during the periods in which they worked on their papers, getting right to work and smoothly carrying over tasks from one day to another. The boys who were interested in cars tended to look over each other's shoulders as they wrote and to enter into discussions about cars as their writing continued. Students were very willing to rearrange their schedules for peer editing or to accommodate peers who asked for assistance with their writing.

Once the first explanation paper was completed, the teacher briefly introduced the expert text structure and discussed its *organization* think-sheet, which represented the only important difference from the explanation text structure. The teacher explained to the students that they should be able to transfer their knowledge of the strategy to the new text structure with minimal assistance, which proved to be accurate. The students then used CSIW to complete an expert paper, followed by a second explanation paper. Although the teacher had hoped there would be time for the students to write two papers using each text structure, there was not enough time in the spring to write a second expert paper.

The teacher introduced the posttest papers by reading the same instructions that he had read prior to the pretests in the fall. Students were encouraged to use any materials at their disposal, including CSIW think-sheets; all students used the think-sheets in preparing their posttest papers. They could choose to write either longhand or at the computer. Due to the crush of time at the end of the school year, however, most students were more rushed in completing their posttest papers than the teacher would have liked. Nevertheless, the students did not complain about the pressure to finish as much as the teacher would have expected.

Results

Pretest and posttest papers were scored using a rating scheme developed by Englert and her colleagues, in which each structural characteristic receives from 0-3 points depending on the degree to which it meets predetermined criteria. Scoring criteria focused upon key elements of each of the two text structures. *Explanation* papers received ratings for the following elements: (1) a holistic rating of overall quality; (2) a primary trait score, which represented a total of scores for introduction, steps in the explanation, use of key words, and organization; (3) number of words; and (4) a reader sensitivity score representing a total of scores for drawing in the reader in the introduction, clearly expressing the purpose of the paper, targeting the audience, and establishing an author voice. *Expert* papers received ratings for the following elements: (1) a holistic rating of overall quality; (2) a primary trait score, which represented a total of scores for introduction, definition of categories, development within categories (depth), development across categories (breadth), use of key words, and organization; (3) number of words; and (4) a reader sensitivity score representing a total of scores for drawing in the reader in the introduction, clearly expressing the purpose of the paper, targeting the audience, and establishing an author voice.

Interrater reliability between two raters for the explanation papers was 90% for pretest primary trait score, 87.5% for pretest reader sensitivity score, 91.7% for posttest primary trait score, and 90.9% for posttest reader sensitivity score. Reliability for expert papers was 100% for both pretest primary trait and reader sensitivity scores, 88.2% for posttest primary trait score, and 87.5% for posttest reader sensitivity score.

Results of comparisons between pretest and posttest means for both text structures are reported in Tables 1 and 2. Statistically significant differences ($p < .05$) were found in all major scoring categories for both explanation and expert text structures. Students demonstrated significant improvement in overall quality, structure-specific primary traits, paper length, and reader sensitivity.

Table 1
Explanation Text Structure
Paired T-test Results

Measure	Possible	N	x	SD	x_D	SD_D	t	df	p
Holistic pretest	3	7	1.857	.378					
Holistic posttest	3	7	2.714	.488	-.857	.690	-3.29	6	.017
Primary Trait pretest	12	7	6.714	1.380					
Primary Trait posttest	12	7	10.000	.816	-3.286	1.496	-5.81	6	.001
No. of Words pretest	--	7	125.857	60.140					
No. of Words posttest	--	7	270.714	74.006	-144.857	78.397	-4.89	6	.003
Read. Sensitivity pre	12	7	3.286	2.289					
Read. Sensitivity post	12	7	8.000	1.291	-4.714	2.430	-5.13	6	.002

Table 2
Expert Text Structure
Paired T-test Results

Measure	Possible	N	x	SD	x_D	SD_D	t	df	p
Holistic pretest	3	7	1.286	.488					
Holistic posttest	3	7	2.571	.535	-1.286	.488	-6.97	6	.000
Primary Trait pretest	18	7	6.714	1.976					
Primary Trait posttest	18	7	14.286	2.289	-7.571	2.299	-8.71	6	.000
No. of Words pretest	--	7	85.571	32.459					
No. of Words posttest	--	7	258.714	85.490	-173.143	79.627	-5.75	6	.001
Read. Sensitivity pre	12	7	3.857	1.864					
Read. Sensitivity post	12	7	8.000	1.528	-4.143	1.952	-5.62	6	.001

Pretest and posttest scores for each student on all measures of both text structures are reported in Tables 3 and 4. Virtually every student demonstrated increased scores on all measures for both text structures. Some scores rose especially dramatically (e.g., Tom's Reader Sensitivity Total on explanation, Ron's Reader Sensitivity Total on expert, Alice's Number of Words on explanation), which would tend to skew the overall averages and group means for these measures. Nevertheless, the consistent increases demonstrated by every student remain dramatically clear.

Table 3

Explanation Text Structure
Individual Pretest/Posttest Results

	TOTAL PRIMARY TRAIT SCORE			TOTAL READER SENSTIVITY SCORE		
STUDENT	PRETEST	POSTTEST	INCREASE	PRETEST	POSTTEST	INCREASE
Jan	9	10	11%	8	9	13%
Tom	8	11	38%	1	10	900%
Cheryl	5	11	120%	3	8	63%
Alice	6	9	50%	4	8	100%
Sam	6	10	67%	3	7	133%
Bob	7	10	43%	2	6	200%
Ron	6	9	50%	2	8	300%
		AVERAGE:	54%		AVERAGE:	244%

	HOLISTIC RATING		NUMBER OF WORDS		
STUDENT	PRETEST	POSTTEST	PRETEST	POSTTEST	INCREASE
Jan	2	3	237	309	30%
Tom	2	3	144	324	125%
Cheryl	1	3	79	265	235%
Alice	2	2	85	374	340%
Sam	2	3	80	189	136%
Bob	2	3	167	269	61%
Ron	2	2	89	165	85%
				AVERAGE:	145%

Table 4

Expert Text Structure
Individual Pretest/Posttest Results

	TOTAL PRIMARY TRAIT SCORE			TOTAL READER SENSITIVITY SCORE		
STUDENT	PRETEST	POSTTEST	INCREASE	PRETEST	POSTTEST	INCREASE
Jan	4	15	275%	4	8	100%
Tom	9	15	67%	6	10	67%
Cheryl	8	17	113%	4	7	75%
Alice	6	10	67%	6	7	17%
Sam	6	13	117%	2	6	200%
Bob	9	16	78%	4	10	150%
Ron	5	14	180%	1	8	700%
		AVERAGE:	128%		AVERAGE:	187%

	HOLISTIC RATING		NUMBER OF WORDS		
STUDENT	PRETEST	POSTTEST	PRETEST	POSTTEST	INCREASE
Jan	1	3	103	312	16%
Tom	2	3	79	375	375%
Cheryl	1	3	70	237	239%
Alice	1	2	105	136	30%
Sam	1	2	50	196	292%
Bob	2	3	140	338	141%
Ron	1	2	52	217	317%
				AVERAGE:	201%

Important qualitative differences emerged in students' papers following CSIW instruction. All students demonstrated a command of paragraph structure that had not been evident in their previous writing, despite the fact that paragraph structure was not "taught" per se. Their writing reflected an awareness of the role of the topic sentence in introducing a paragraph and the role of supporting details in "fleshing out" the idea. The organization step, with its emphasis on grouping and "labeling" ideas, would appear to have helped develop these improved paragraphing skills.

Students' papers also demonstrated a new awareness of the purpose of the introduction and conclusion, as well as an emerging sensitivity to their audience (again, with very little, if any, formal "instruction"). The following introductory and concluding paragraphs, gathered from papers written during the year, are illustrative:

I: Think back to the last time you attended a catered meal. Do you have what it takes to cater? Well if you're not sure maybe by the time you're done reading this paper you could answer my question. I'll explain everything from tbe beginning to the end of a job.

C: Remember the question I asked at the beginning? Hopefully I gave enough information to answer the question. For me I enjoy my job there and it can be really fun at times. Next time you attend a catered meal I hope you think about everything you just read. (Cheryl)

I: The name Roller Blade is a familiar name to describe the new type of "roller skates." The fact is that Roller Blade is a name brand, they are really supposed to be called inline skates. Inline skates are four or three wheels in a single file line or other words "in line." There are other brands of skates but as far as I know, the other ones are cheap and not worth buying. (The cost of a good pair of Roller Blade skates will cost you around 120.00-190.00 dollars.) Roller Blade inline skates are pretty expensive but you will get you'r (sic) money's worth.

C: With all the fun you can have with inline skates, I think that everyone will want to have a pair. They're good transportation, you can play a lot of different sports on them, you can go anywhere there is concrete or blacktop, and they are good exercise. I think that inline skates are the most fun kind of skates there are. (Tom)

I: Making this easy snack is easy and fun. This snack is so easy that even four and five-year-olds can do it.

C: I hope that your fun bread turns out looking good and tasting fine. Now wasn't that a fun and easy snack to make? (Jan)

I: Have you ever got a flat tire and didn't know what to do? Well if you have I hope this helps for the next time. If you haven't I hope this well (sic) help if you do get a flat.

C: Well that's about it. I hope this well (sic) help you some day in the future. But, if you can't get it changed don't call me I'll call you!!! (Ron)

As the school year progressed, the students began to develop writing styles of their own as their authors' voices emerged. Students employed such conventions as humor, colloquialisms, and understatement in developing their voices as authors. Consider the following excerpts from the posttest papers:

Bob (on water skiing): "...I have skied (sic) a few times and picked this information from better skiers (sic) or learned the hard way. One time my sister was skying (sic) and wiped out by falling forward when a loose sky (sic) hit her in the nose. It was bleeding like a stuck hog and it kind of paniced (sic) everyone else in the boat."

Cheryl (on wrestling cheerleading): "...When the guy you're cheering for is underneath don't do a (sic) offensive cheer."

Jan (on trying out for cheerleading): "...Finally they call your name to come out and perform, you want to come out with a smile on your face acting cheerful and happy about your cheers and how your (sic) going to do them. You want to do your cheers with a lot of dignity and pride."

Tom (on building a go kart): "...To plan you'r (sic) go kart, it would be helpfull (sic) & easy to design a blue print. It doesn't have to be neat & nice, just so you can read & understand it."

Alice (on showing a horse): "...What that means is the front legs should be three to six inches apart from each other and even, the same goes for the back legs. It's called setting up. This takes a long time to teach but the horse will get it if you keep on pounding it into there (sic) heads."

Sam (on writing an explanation paper): "...Writing an explanation paper can be fun if you have the right topic. So try writing an explanation paper with your English teacher or with one of your friends. Then try giving it to the English teacher for extra

credit."

Paper length, paragraph structure, and the presence of an introduction and conclusion represented the most obvious contrasts between the pretest and posttest papers. *Every one* of the 14 pretest papers (seven for explanation and seven for expert) was a single paragraph in length. By contrast, *every one* of the 14 posttest papers was composed of multiple paragraphs that demonstrated a command of the specific text structure. Furthermore, *every* posttest paper included a legitimate introduction and conclusion. This contrast is exemplified by Tom's expert pretest and posttest papers (see Appendices H and I).

Students reported that CSIW instruction was extremely helpful to them. One student volunteered that he thought CSIW should be taught to *all* students in a writing class. The students felt that CSIW made writing easier. In what way? "Well, thinking it through," one student said. "If you're just writing really fast, you might not get everything in."

As the teacher had anticipated, the brainstorming and organization steps proved to be especially important. Students reported benefiting from being "forced" to expand the initial brainstorm, and they generally found ideas to add (sometimes *many* ideas) to their lists. As one student put it, "If you just sat down and started writing, you wouldn't think of all that." Once the brainstorm was complete, students reported no problems using the color-coding to categorize and label their ideas; they indicated that groupings and subsequent category labels "jumped out" at them. This is an especially important finding because the color-coded groupings and corresponding labels form the basis for paragraph divisions and for identification of the main ideas in the topic sentences.

Students indicated that careful attention to the brainstorming and organizing steps made the rest of the writing process go much faster: "You've got all the ideas. All you've got to do is write them down."

Students found the suggestions of their peer editors to be especially helpful, despite the fact that one student reported some reluctance to offer suggestions to an author for fear of sounding "like a jerk." Nevertheless, the following student's comment is more representative: "When you revised it and read it to people and they gave ideas of what you could do, that helped to make it a little more interesting." Moreover, the teacher frequently remarked

that the peer editors made suggestions to authors that he (the teacher) had missed.

One of the teacher's primary goals of instruction was to foster flexible thinking in the students' approach to writing. It would appear that some success in this regard was achieved, in that the students moved smoothly from the teacher-modeled explanation text structure to the unmodeled expert structure with very little assistance. In addition, some students found uses for CSIW techniques in their other classes. At least two students used the CSIW format to prepare speeches for their regular English classes. These students noted that it was very easy for them to translate the *organization* think-sheet into the required speech outline. Another student, who was in danger of failing a class, used CSIW to write two extra-credit papers that saved his grade. After receiving the first of the papers, his teacher commented:

> (Student's name) turned in a very well-written and well-organized word processed report that was obviously his work. He asked later, with pride, what I thought of it. I told him, honestly, how impressed I was. He seemed interested in the chapter, thereafter, and the extra credit provided him with enough points to pass and earn a credit.

Upon learning of the success the resource room students were experiencing with CSIW, one of the regular English teachers on the faculty inquired about the strategy. Upon receiving a brief orientation, she began using elements of CSIW with one of her own classes.

Discussion

Secondary students with learning disabilities frequently have experienced years of frustration with written expression. CSIW instruction proved to be extremely successful in facilitating improved writing skills among one such group of students. Incorporating cognitive strategy instruction within the framework of process writing allowed students to "see the big picture" of the writing task, while simultaneously providing them with writing tools through which to enter the writing community.

Two particularly thorny skills for students with LD, idea generation and organization, appear to be greatly improved by CSIW techniques. The *plan* think sheet facilitates idea generation by first focusing students' attention

on the purpose of the writing task, then leading directly into the brainstorming of ideas to accomplish that purpose. Expansion of ideas and sensitivity to reader needs were facilitated by asking the following question of *every* idea in the brainstorm: "What should I tell the reader about this idea that I haven't already listed?" The *organization* think sheets, with their concept maps and structuring clues, played a key role in developing students' ability to group ideas and to identify unifying "labels". Special emphasis on this step resulted in the added bonus of improved paragraph structuring skills.

Teacher modeling of the CSIW process was very time consuming, but the time was well spent. Students were able to see how the techniques were applied by a more sophisticated writer who was nonetheless keenly aware of their own learning strengths and weaknesses. As such, the teacher was able to customize CSIW instruction to better meet student needs. The teacher was quite frankly amazed at how smoothly the students achieved independence with the CSIW approach once the process had been modeled. These adolescents related extremely well to the teacher's expressed goal of facilitating independent writing skills in a short period of time.

It must be emphasized that the modeling was very focused, and students were actively encouraged to enter into the process as it was modeled. Moreover, having students work on their own first papers *in combination* with the teacher's modeling appears to have been a successful approach. This approach allowed students to immediately apply a modeled skill in their own writing. Despite the clear focus of his modeling, the teacher found numerous opportunities to provide incidental direct instruction in specific writing skills beyond those addressed by CSIW; these opportunities presented themselves throughout the school year. Such opportunities are especially valuable because they arise from the students' own writing, and the skills can be addressed immediately within the context of a task in which the students have an investment. The students' consistent incorporation of introductions and conclusions into their writing represents the clearest example of extending CSIW concepts beyond the boundaries of the think-sheets.

CSIW provided a framework within which the teacher was able to foster writing independence among his students. From the outset he emphasized his desire to quickly transfer responsibility for writing quality to the students

and his confidence in their ability to shoulder that responsibility. As students began seeing tangible results from using CSIW procedures, they developed confidence in their own ability to produce high-quality written text.

The teacher has identified at least two factors that might further enhance the effectiveness of CSIW with older students. First, the sample explanation papers used to introduce CSIW were borrowed from the work of Englert and her colleagues with elementary students. Samples more appropriate for secondary students should be secured. Secondly, some students found it difficult to become actively engaged in the peer editing process. Perhaps students need more familiarity with the ways in which authors "connect" with readers. It also may be that these students simply do not know how to go about the task of seeking suggestions from and making suggestions to a peer. If so, perhaps the teacher and another adult writer could model peer editing strategies. It alsocould be the case that students are uncomfortable with the interpersonal dynamics of peer editing. Efforts to develop a discourse community within the resource room would be helpful in this regard. As such, techniques such as morning message (see Englert, Raphael, & Mariage, in press) could be modified for older students. Morning message involves daily explorations of students' ideas and experiences within a structure that allows the author of an idea to seek input from the rest of the class.

This research could be extended in a number of ways. Assuming that students with learning disabilities do not have exclusive rights to idea generation and organization problems, CSIW would appear to be a useful approach for students in regular classrooms. The fact that students in this study applied CSIW techniques in other classes and the interest expressed by a regular English teacher seems to substantiate this notion. Extensions of CSIW for secondary students might include application to the writing of a research paper and more sophisticated means of publishing completed work (e.g., desktop-published newsletter, columns for the school newspaper).

An effort should be made to assess the maintenance of writing skills over time following CSIW instruction. Should maintenance prove to be problematic, "booster techniques" appropriate for secondary students might be developed. Furthermore, the success of CSIW with the current sample of secondary students with learning disabilities implies that the approach might

be extended to adult learners (including college students) with deficiencies in written expression.

Author Note

The author is extremely grateful to Carol Sue Englert for her assistance in the conception of this study, her encouragement throughout, and her review of previous drafts of this paper. The author also wishes to thank Jong-Pil Kim for his help with the statistical analysis.

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APPENDIX A

PLAN THINK SHEET

Name _____ Date _____

TOPIC: _____

WHO: Who am I writing for?

_____

WHY: Why am I writing this?

_____

WHAT: What do I know about the topic? (Brainstorm)

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

(Continue on another sheet, if necessary.)

APPENDIX B

ORGANIZATION THINK-SHEET FOR EXPLANATION

WHAT IS BEING EXPLAINED?

WHO OR WHAT IS NEEDED?

SETTING?

WHAT ARE THE STEPS?

FIRST,

NEXT,

THIRD,

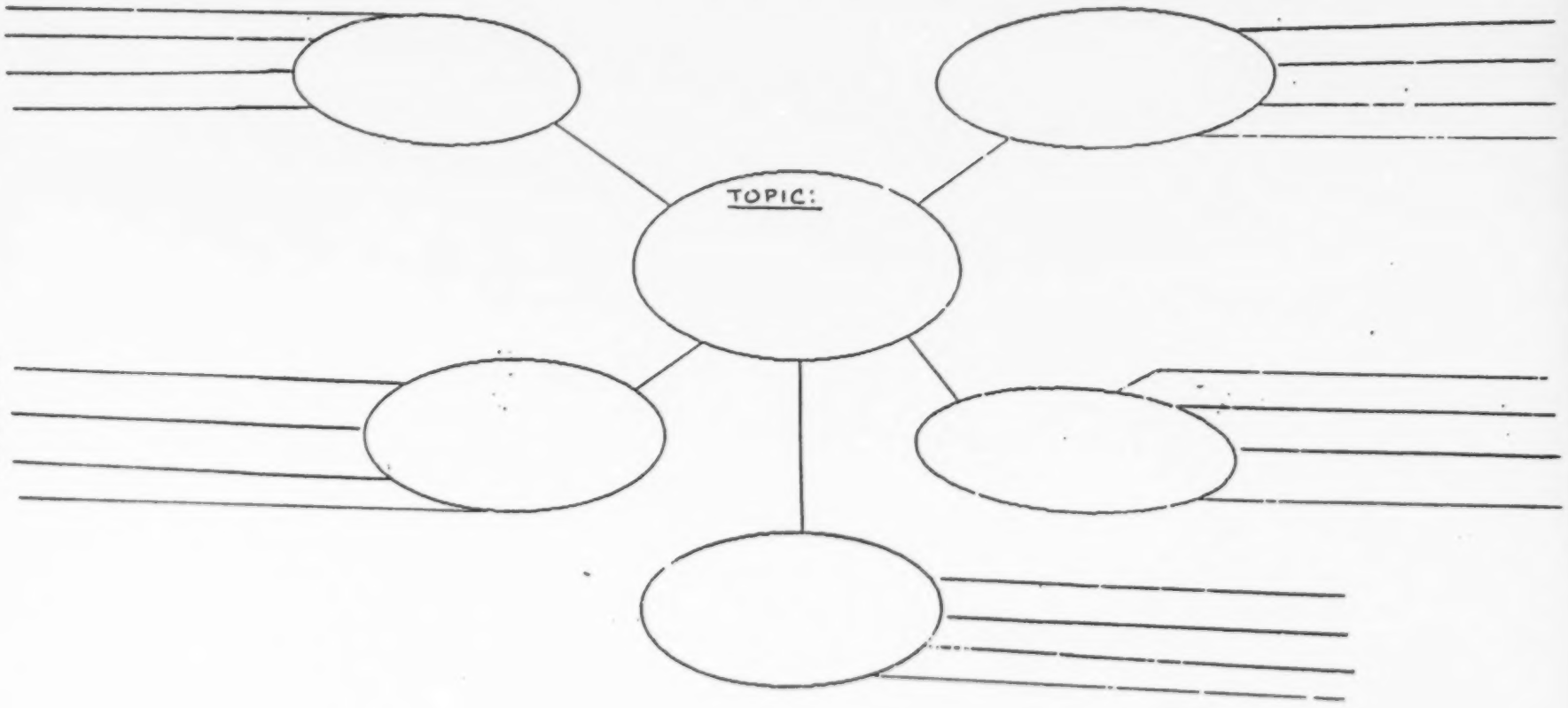
THEN,

FIFTH,

FINALLY,

Name: _____ Date _____

ORGANIZING MY IDEAS



APPENDIX C

1. How can I group my ideas into categories?

2. How can I order my ideas?

APPENDIX D

EDIT

Name _____ Date _____

Read To Check Your Information. Reread my paper.

What do I like best? (Put a * by the parts I like best)

What parts are not clear? (Put a ? by unclear parts)

Question Yourself to Check Organization. Did I

Tell what was being explained?	YES	sort of	NO
Use 2-3 categories?	YES	sort of	NO
Name each category clearly?	YES	sort of	NO
Give details to explain each category?	YES	sort of	NO
Use key words (first, second)	YES	sort of	NO
Make it interesting?	YES	sort of	NO

Plan Revision. (look back)

What parts do I want to change?

1. _____

2. _____

Write two or more questions for my editor.

1. _____

2. _____

APPENDIX E
EDITOR

Author's Name _____

Editor's Name _____ Date _____

Read to Check Information. Reread the paper.

What's the paper about?

_____

_____

What do you like best? (Put a * by the parts you like best.)

What parts are not clear? (Put a ? by unclear parts.)

Question Yourself to Check Organization. Did the author

Tell what was being explained?	YES	sort of	NO
Use 2-3 categories?	YES	sort of	NO
Name each category clearly?	YES	sort of	NO
Give details to explain each category?	YES	sort of	NO
Use keywords (first, second)	YES	sort of	NO
Make it interesting?	YES	sort of	NO

Plan Revision.

What two parts would you change?

1. _____

2. _____

One thing that would make it more interesting is _____

_____

APPENDIX F

REVISE

Name _____ Date _____

1. What suggestions did your editor give?

   a. _____

   b. _____

   c. _____

   d. _____

   e. _____

   Put a check next to the suggestions you will use.

2. How will you make your paper more interesting?

   _____

   _____

   _____

3. Go back to your first paper and make your revisions.

Revision Symbols

Type	Symbol	Example
Add Words	^	The little girl is my sister.
Take words out	~~	The woman has tried to give
Change Order	∿	He had go to home
Add Ideas here	↙	The dog is friendly. Tell which dog

APPENDIX G

GUIDELINES FOR PEER EDITORS

1. Emphasize the positive first. What do you like about the paper?

2. Your comments are <u>suggestions</u> only. The author will decide what to change and how to change it.

3. The goal of peer-editing is to help the author improve the paper, <u>not</u> to be critical or judgmental. Authors and editors must cooperate in order to produce the best work possible.

4. Editors should ask questions that help the author think more about the topic and consider what might be of interest to readers.

5. Editors help the author when needed. If the author wants the editor's help in writing a certain part or wants to know how to say something, the editor should be prepared to help.

6. Editors should realize that there is usually more than one way to do something. Asking questions is the key to good writing and good editing.

7. Don't fix what isn't broken. If the paper is so good that you can't think of too many suggestions, leave part of the "Editor" sheet blank. Don't try to force your ideas on the author if the author's way is just as good.

APPENDIX H
TOM'S EXPERT PRETEST PAPER

Modeling

In this hobby it ~~the~~ takes a lot of patents and time if you want to be good. I also takes some practice. When you begin a models, have ~~alot~~ lots of table space and make sure it's clean. Then get all the tools you will need and keep them in an orderly fashon. When you open the model, be careful + look over the pieces + make sure there all there. Now your ready, ~~then~~ take you time and have fun!

BEST COPY AVAILABLE

APPENDIX I
TOM'S EXPERT POSTTEST PAPER

HERDING ANIMALS

One of the most frustrating things to do on a farm is to try to herd a group of animals from one place to another. There are some things you need to do and remember when doing this difficult task. In this paper, I hope to give you some hints on herding animals.

First of all, you need to know the characteristics of the animal you are herding. You have probably heard of "if one sheep goes, the others will follow," which is true with sheep and some other animals. Cattle and some other animals don't apply to this saying. It's hard to tell what all of the different animals do, but now hopefully you will get a little advantage over the animal.

Some things to beware of when you're around animals is mothers are the meanest when their young babies are involved. The best thing is to get the baby and get you and the baby out of the sight of the mother, which isn't as easy as it sounds. Other things to be aware of is reputations of some animals, like bulls usually are mean and sheep are usually stupid.

Knowing how a certain animal will move is they will always be looking for a space to escape. Which in other words to be ahead of the animal, look into its eyes and usually you can tell where it is going to head. Also you can tell if they're going to run by seeing telegraphic movements which are a sudden kick or grunt.

In trying to move a herd, the best way is to have a lot of people and a lot of patience. The size of the pen or the size of the animal can make a difference and can start a catastrophe. So you must always be careful and always know where you're at and where the herd is at. One safety thing to have is a big stick or a cattle prod, but one of the safest things to do is just get out of the way and jump the fence.

Now that I've told you all the things that I know about herding animals, I hope it will be easier and less agonizing the next time you're herding animals.